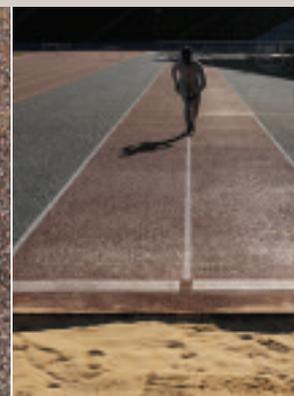


# The Big Leap\*



Once again we go to the heart of boardroom thinking with our comprehensive annual global survey of power utility company leaders around the world. Both this year and in the last two years, concerns about security of supply top the list of anxieties with massive technological and infrastructure investment required to meet burgeoning demand and address environmental concerns. Against that background, last year in our *Under Pressure* report, we asked investors about the attractiveness of investment in the sector and found significant concerns about regulatory uncertainty and market volatility.

This year we go inside the industry to focus on the sector's viewpoint about *The Big Leap* forward that needs to be made. We find a sector that has little doubt about the scale of the challenge facing it and has increasing confidence that it can provide many of the solutions. We survey the changes that are being or need to be made in technology, investment, M&A, efficiency, cleaner fuels and customer relationships.

But we also find a sector still worried that these developments may flounder on the hurdle of continuing regulatory uncertainty despite the industry voicing its concerns. Planning, price and regulatory uncertainty continue to cloud the long-term investment frameworks that are needed to deliver a range of solutions such as nuclear, clean coal and renewables.

The industry is worried that a full appreciation of the preparations needed won't happen until the worst symptoms occur. The respondents to our survey point to a real concern that shock factors such as supply crises may intervene ahead of considered regulatory reform.

Looking ahead, there is considerable need for regulatory frameworks to emerge that provide a better environment for investment and planning but our survey respondents remain divided about how fast progress can be achieved. The political and economic context for power remains caught between a pure market-oriented approach and a more planned and structured environment. In some territories, respondents expect the opening up of markets to continue while elsewhere they expect it to stall. It is against this background that the industry has to 'roll its sleeves up' and work with government and investors to make the infrastructure, technological, environmental and investment leaps that need to happen.

# Report highlights

## Revolutionary change ahead

The power and gas sector is facing 'revolutionary' change. Two-thirds of the respondents in our global survey say the industry is facing its biggest challenge in recent times and the majority of these rate the changes that the industry will have to undergo as little short of 'revolutionary'. This sentiment is most strongly felt in Europe where nearly three-quarters (72%) of respondents expressed this view.

## Stepping up the pace

There is widespread feeling within the industry that the pace of change needs to be stepped up with progress to date falling behind what it would like to achieve. For example, 42% of respondents said the sector was lagging behind in the development of renewable energy sources. Even more respondents – between 50% and 60% – said the industry needs to have a strong 10-year focus on reducing environmental damage, developing new technologies, improving customer service relationships and finding new fuel sources.

## Waiting to be shocked into action?

Despite market liberalisation, the survey highlights the continuing pivotal role of policy makers and regulators who are identified as both the leading source of pressure for change and the biggest barrier to achieving change. The sector feels increasingly confident that it will be able to deliver the technological solutions to achieve change but it continues to be uncertain about the political and regulatory context. Indeed, 42% of respondents felt that the industry is unable to develop long-term plans due to government or regulatory policy. There is a real worry that the policy makers may not succeed in dismantling this hurdle before shock factors, such as supply or environmental crises, come into play.

## Supply concerns persist

The prospect of real shocks is highlighted by the fact that 51% of the respondents to our survey reported that they face either a significant or immense supply and demand challenge over the next five years. The worry is particularly strong in Europe where twice as many utility leaders believe the prospects for power cuts have increased rather than diminished. In the long-term, greater end-user energy efficiency could ease supply and demand imbalances but the mandate to make this happen sits uneasily between regulators and utility companies.

## Making a technological leap

Higher prices, stretched supply lines and investment in expanded and diversified infrastructure place significant additional cost into the value chain. Companies are looking to technological innovation both to deliver efficiencies and to respond to the pincer of future demand challenges and environmental concerns.

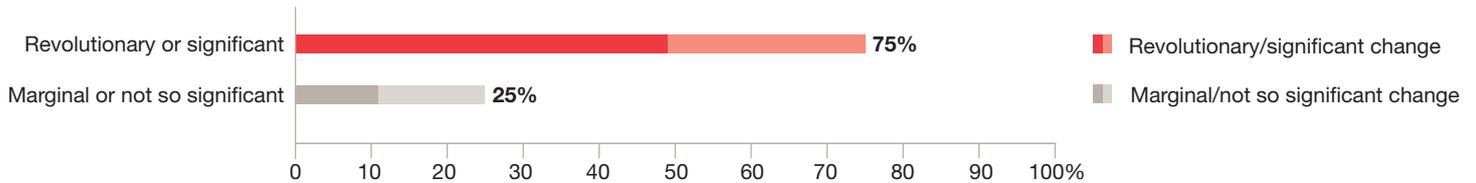
## Clean coal moves to the front burner

Coal tops the list of fuels expected to make the biggest contribution to meeting future demand growth and it is here that survey respondents expect technology to have the greatest impact. The combination of technological developments and high energy prices are expected to significantly increase the contribution of both coal and nuclear in the energy mix. Half of the respondents in the Americas and Europe and 44% of all respondents said they expect nuclear capacity to increase in their region.

## M&A activity jumps upwards

Utility companies are already making big leaps in M&A activity. Both the value of total deals and the size of deals are at record levels. Total deal value soared from US\$123bn in 2004 to US\$196bn in 2005, much of it fuelled by a US\$64.6bn increase in the value of European power assets that changed hands. Looking ahead, deal activity in the sector is likely to be sustained with the industry ripe for consolidation in all major markets.

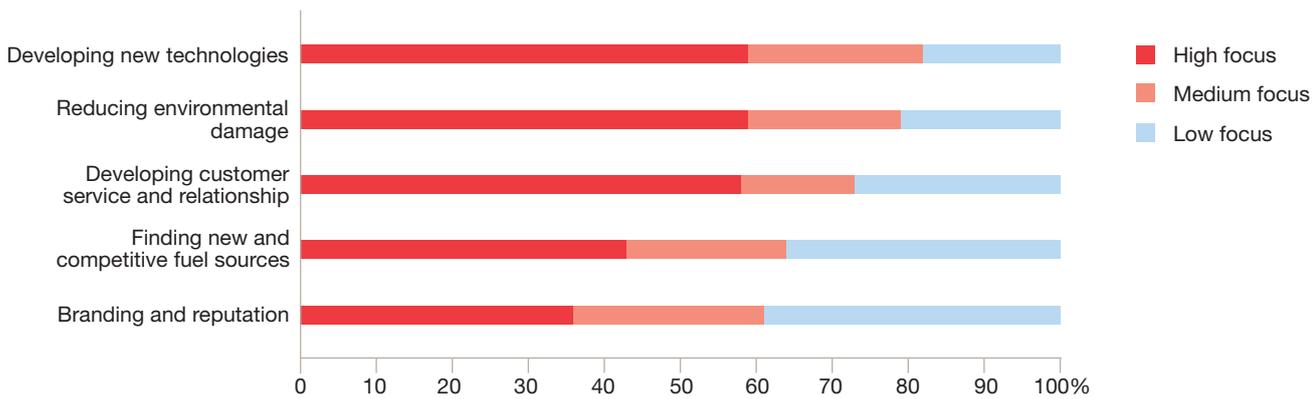
**The extent of change facing the power utilities sector**



**Note:** Global responses only. % share of responses

**Source:** PricewaterhouseCoopers, *Utilities global survey 2006: Figure 2*

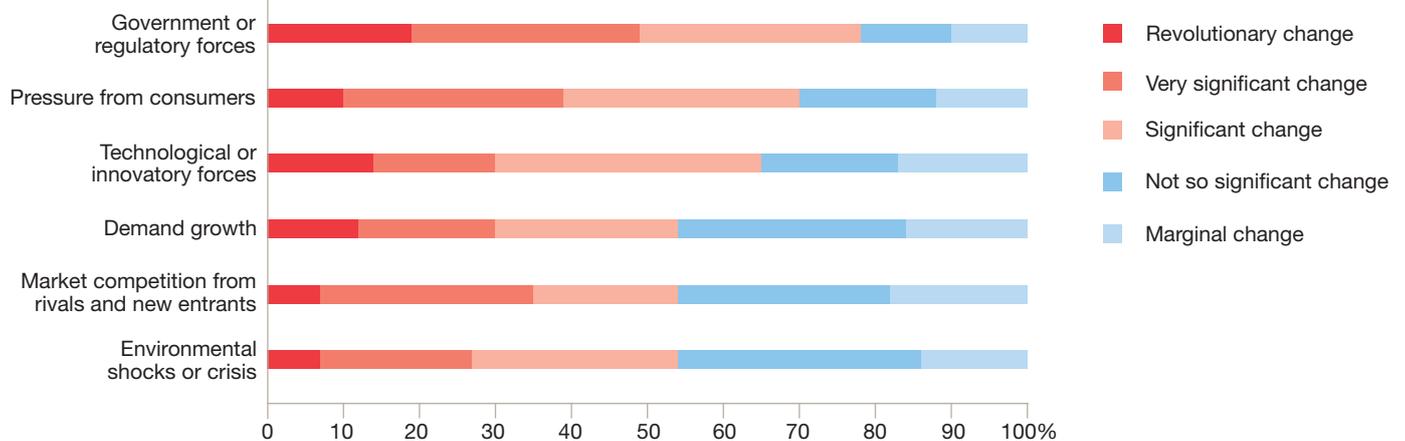
**What should be the focus of the utility industry in the next ten years?**



**Note:** Global responses only. % share of responses

**Source:** PricewaterhouseCoopers, *Utilities global survey 2006: Figure 3*

**What is driving the change?**



**Note:** Global responses only. % share of responses

**Source:** PricewaterhouseCoopers, *Utilities global survey 2006: Figure 4*

# What the future holds



In *The Big Leap*\* we have drawn on the insight of 116 senior power utility executives. They operate in a variety of market contexts in 43 different countries around the world. The common theme, though, from the vast majority of respondents, is that the period ahead holds the prospect of potentially massive change to meet the challenges of supply and demand and environmental sustainability, and to deliver the technological development and infrastructure investment needed to meet these challenges.

We see an industry that is already in the spotlight and, looking ahead, is likely to find that the spotlight intensifies. Consumers and governments in western economies are joining the ranks of those elsewhere in the world who realise that they cannot take power supply for granted. Respondents to our survey do not rule out the prospect of future serious shocks to the system as we move into an era of stretched supply lines and potential power imbalances.

The message, though, from the industry is that it is ready to make the 'big leap' needed to ensure such scenarios do not unfold but, equally important, regulators and policy-makers also need to make a big leap to ensure a more certain and consistent regulatory, and hence investment, climate. Some of our respondents use the term 'revolutionary' to describe the changes ahead and most believe it will be the biggest period of change in the sector in modern times.

If these expectations are correct, we can expect to see a power and gas utilities sector that is radically different from now. On the ownership and sector structure front, we will see many fewer and much larger super-regional generation and distribution companies. We will see greater ownership fusion of upstream and downstream energy. We will see a continued move of infrastructure entities into private investment fund ownership. We will have the prospect of much greater end-user involvement in both industrial-scale power projects and smaller and more medium-sized distributed power.

Across all of the industry, technology will be a key driver and investment in technology, particularly in clean coal generation, will be a key determinant in the extent to which greenhouse gas growth is mitigated. Coal and nuclear will play a larger part in the fuel mix. Finally, many in the industry feel there is the very real prospect of 'cap and trade' emission control schemes being extended around the world.

# The survey

*The Big Leap*\* is based on in-depth interviews, conducted between January-February 2006 with 116 senior executives from 98 utility companies across 43 countries. Research covered the four major regions around the globe.

For copies of the report, please visit [www.pwc.com/energy](http://www.pwc.com/energy)

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